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<b>Substitute for form 1449A/PTO</b>  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)				<b>Complete If Known</b>	
				Application Number	10/066,095
				Filing Date	1/31/2002
				First Named Inventor	Steven Teig, et al.
				Group Art Unit	2825
				Examiner Name	Brandon Bowers
Sheet	1	of	1	Attorney Docket Number	SPLX.P0074

FOREIGN PATENT DOCUMENTS								
Examiner's Initials	Cite No. <sup>1</sup>	Foreign Patent Document			Date of Publication MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Office <sup>2</sup>	Number <sup>3</sup>	Kind Code (if known) <sup>5</sup>				
BB	1.	JP	02-262354		10-25-1990	Kuribayashi, Mototaka		

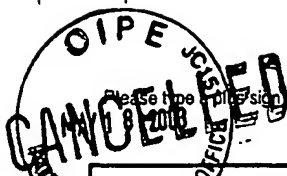
NON PATENT LITERATURE DOCUMENTS					
Examiner's Initials	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.			T <sup>6</sup>
BB	2.	CHO J.D., Wiring Space and Length Estimation in Two-Dimensional Arrays, May 2000, Computer-Aided Design of Integrated Circuits and Systems, IEEE Transactions on, VOL. 19, Iss. 5, pp. 612-615.			
BB	3.	CONG J. et al., DUNE - A Multilayer Gridless Routing System, May 2001, IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, vol 20, iss. 5, pp. 633-647.			
BB	4.	DION J. et al., Contour: A Tile-based Gridless Router, March 1995, Digital Western Research Laboratory, research Report 95-3, pp. 1-22.			
BB	5.	JUTTNER et al., "Lagrange Relaxation Based Method for the QoS Routing Problem, IEEE, Apr. 26, 2001, pp 259-268.			
BB	6.	SCHULZ U., Hierarchical Physical Design System, CompEuro '89, VLSI and Computer Peripherals. VLSI and Microelectronic Applications in Intelligent Peripherals and their Interconnection Networks. Proceedings, 8-12 May 1989, pp. 5/20 - 5/24.			
BB	7.	TSENG H-P. et al., A Gridless Multilayer Router for Standard Cell Circuits Using CTM Cells, Oct. 1999, IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, vol 18, iss. 10, pp. 1462-1479.			

Examiner Signature		Date Considered	12/13/04
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**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

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Sheet

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Application Number	10/066,095
Filing Date	1/31/2002
First Named Inventor	Steven Teig et al.
Group Art Unit	3628-2825
Examiner Name	Chenevski, S. Bowers
Attorney Docket Number	SPLX.P0074

**U.S. PATENT APPLICATIONS**

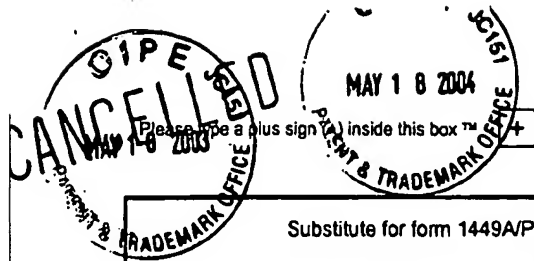
Examiner Initials	Cite No. <sup>1</sup>	U.S. Patent Application		Name of Patentee or Applicant of Cited Document	Date of Filing MM-DD-YYYY	Related Application Data if any
		Serial Number	Attorney Docket Number			
BB	1.	10/066,060	SPLX.P0072	Steven Teig	01-31-2002	Application filed on the same date, with same specification and drawings, but with different summary and abstract.
BB	2.	10/066,160	SPLX.P0073	Steven Teig	01-31-2002	Application filed on the same date, with same specification and drawings, but with different summary and abstract.
BB	3.	10/066,047	SPLX.P0078	Steven Teig et al.	01-31-2002	Application filed on the same date, with same specification and drawings, but with different summary and abstract.
BB	4.	10/061,641	SPLX.P0079	Steven Teig et al.	01-31-2002	Application filed on the same date, with same specification and drawings, but with different summary and abstract.
BB	5.	10/066,094	SPLX.P0080	Steven Teig et al.	01-31-2002	Application filed on the same date, with same specification and drawings, but with different summary and abstract.
BB	6.	10/076,121	SPLX.P0081	Steven Teig et al.	02-12-2002	CIP of 10/066,094.
MB	7.	10/062,995	SPLX.P0105	Steven Teig et al.	01-31-2002	Application filed on the same date, with same specification and drawings, but with different summary and abstract.
BB	8.	10/066,102	SPLX.P0106	Steven Teig	01-31-2002	Application filed on the same date, with same specification and drawings, but with different summary and abstract.
MB	9.	10/066,187	SPLX.P0133	Steven Teig et al.	01-31-2002	Application filed on the same date, with same specification and drawings, but with different summary and abstract.
BB	10.	10/286,584	CDN.P0037	Steven Teig	10-31-2002	
BB	11.	10/335,087	CDN.P0038	Steven Teig et al.	12-31-2002	
BB	12.	10/335,239	CDN.P0039	Steven Teig et al.	12-31-2002	

Examiner Signature	<i>Anthony Bowers</i>	Date Considered	12/13/04
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<b>Substitute for form 1449A/PTO</b>  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)				Application Number	10/066,095
				Filing Date	1/31/2002
				First Named Inventor	Steven Teig et al.
				Group Art Unit	3628 2825
				Examiner Name	Chencinski, S. Bowers
Sheet	2	of	9	Attorney Docket Number	SPLX.P0074
<b>U.S. PATENT APPLICATIONS</b>					
	13.	10/335,086	CDN.P0040	Steven Teig et al.	12-31-2002

FOREIGN PATENT DOCUMENTS								
Examiner's Initials	Cite No. <sup>1</sup>	Foreign Patent Document			Date of Publication MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>2</sup>
		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code (if known) <sup>5</sup>				
	14.	JP	11-296560		10-29-1999	Matsumoto et al.	with English translation of Abstract;	
BB	15.	JP	2000-082743		03-21-2000	Igarashi et al.	with Japanese Patent Office's English translation of Abstract; and with English translation of the application.	✓
BB	16.	JP	64-15947		01-19-1989	Ouchi	with English translation of Abstract;	
BB	17.	JP	03-173471		07-26-1991	Tawada et al.	with Japanese Patent Office's English translation of Abstract; and with English translation of the application.	✓
BB	18.	JP	04-000677		01-06-1992	Fujiwara et al.	with English translation of Abstract;	
BB	19.	JP	05-102305		04-23-1993	Sato	with Japanese Patent Office's English translation of Abstract; and with English translation of the application.	✓
BB	20.	JP	05-243379		09-21-1993	Kubota	with Japanese Patent Office's English translation of Abstract;	✓

Examiner Signature	Brian Bower	Date Considered	12/13/04
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**INFORMATION DISCLOSURE  
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Sheet

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of

9

Application Number

10/066,095

Filing Date

1/31/2002

First Named Inventor

Steven Teig et al.

Group Art Unit

3628

2825

Examiner Name

Chendinski, S. Bomer

Attorney Docket Number

SPLX.P0074

**FOREIGN PATENT DOCUMENTS**

							and with English translation of the application.	
BB	21.	JP	07-086407		03-31-1995	Miura	with Japanese Patent Office's English translation of Abstract; and with English translation of the application.	✓
BB	22.	JP	09-162279		06-20-1997	Yoshida	with Japanese Patent Office's English translation of Abstract; and with English translation of the application.	✓

**NON PATENT LITERATURE DOCUMENTS**

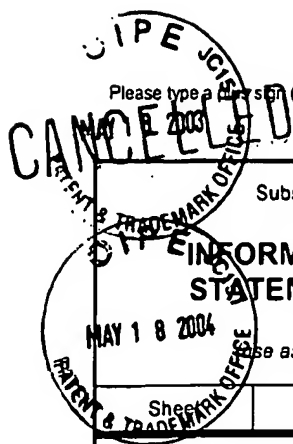
Examiner's Initials	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>6</sup>
BB	23.	Chen, H.F. et al., A Faster Algorithm for Rubber-Band Equivalent Transformation for Planar VLSI Layouts, IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, vol. 15, No. 2, February 1996, pp. 217-227.	
BB	24.	Chip Model with Wiring Cost Map, August 1983, IBM Technical Disclosure Bulletin, vol. 26, issu. 3A, pp. 929-933	
BB	25.	Dayan, T. et al., Layer Assignment for Rubber Band Routing, UCSC-CRI-93-04, January 20, 1993.	
BB	26.	Dayan, T., Rubber-Band Based Topological Router, A Dissertation, UC Santa Cruz, June 1997.	
BB	27.	Dood, P. et al. A Two-Dimensional Topological Compactor with Octagonal Geometry, 28 <sup>th</sup> ACM/IEEE Design Automation Conference, pp 727-731, July 1991.	

Examiner Signature		Date Considered	12/17/04
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Sheet

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Application Number	10/066,095
Filing Date	1/31/2002
First Named Inventor	Steven Teig et al.
Group Art Unit	3628-2328
Examiner Name	Chencinski, S. [Signature]
Attorney Docket Number	SPLX.P0074

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BB	28.	Fujimura, K. et al, Homotopic Shape Deformation.	
BB	29.	Hama, T. et al., Curvilinear Detailed Routing Algorithm and its Extension to Wire-Spreading and Wire-Fattening.	
BB	30.	Hama, T. et al., Topological Routing Path Search Algorithm with Incremental Routability Test, IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, vol. 18, No. 2, February 1999, pp. 142-150.	
BB	31.	Kobayashi, K. et al., A New Interactive Analog Layout Methodology based on Rubber-Band Routing, UCSC-CRL-96-12, June 13, 1996.	
BB	32.	Lim, A. et al, A Fast Algorithm To Test Planar Topological Routability, Technical Report 94-012, pp. 1-16.	
BB	33.	Lu, Y., Dynamic Constrained Delaunay Triangulation and Application to Multichip Module Layout, A Thesis for Master of Science, UC Santa Cruz, December 1991.	
BB	34.	Maley, F.M., Testing Homotopic Routability Under Polygonal Wiring Rules, Algorithmica 1996, 15: 1-16.	
BB	35.	Morton, P. B. et al., An Efficient Sequential Quadratic Programming Formulation of Optimal Wire Spacing for Cross-Talk Noise Avoidance Routing, UCSC-CRL-99-05, March 10, 1999.	
BB	36.	NN71091316, Use of Relatively Diagonal And Rectangular Wiring Planes n Multilayer Packages, September 1971, IBM Technical Disclosure Bulletin, Vol. No. 14, Issue No. 4, pp. 1316-1317.	
BB	37.	Staepelaere, D. et al., Geometric Transformations for a Rubber-Band Sketch, A Thesis for a Master of Science in Computer Engineering, UCSC, September 1992.	
BB	38.	Staepelaere, D. et al., Surf: A Rubber-Band Routing System for Multichip Modules, pp 18-26, 1993.	
BB	39.	Su, J. et al., Post-Route Optimization for Improved Yield Using Rubber-Band Wiring Model, 1997 International Conference on Computer-Aided Design, pp 700-706, November 1997.	
BB	40.	Wei-Ming Dai, W. et al., Routability of a Rubber-Band Sketch. 28 <sup>th</sup> ACM-IEEE Design Automation Conference, 1991. pp. 45-65.	
BB	41.	Xing, Z. et al., A Minimum Cost Path Search Algorithm Through Tile Obstacles, slide presentation.	
BB	42.	Xing, Z. et al., Shortest Path Search Using Tiles and Piecewise Linear Cost Propagation, IEEE, 2002, pp.145-158.	

Examiner Signature	[Signature]	Date Considered	12/13/04
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			First Named Inventor	Steven Teig et al.	
			Group Art Unit	3628 2826	
			Examiner Name	Chencinski, S. <i>Bowen</i>	
Sheet	5	of	9	Attorney Docket Number	SPLX.P0074

**NON PATENT LITERATURE DOCUMENTS**

<i>BB</i> ✓	43.	Xu, A More Efficient Distance Vector Routing Algorithm, UCSC-CRL-96-18, March 1997.	
<i>BB</i> ✓	44.	Yu, M.-F. et al., Fast and Incremental Routability Check of a Topological Routing Using a Cut-Based Encoding, UCSC-CRL-97-07, April 14, 1997.	
<i>BB</i> ✓	45.	Yu, M.-F. et al, Interchangeable Pin Routing with Application to Package Layout, UCSC-CRL-96-10, April 25, 1996.	
<i>BB</i> ✓	46.	Yu, M.-F. et al., Pin Assignment and Routing on a Single-Layer Pin Grid Array, UCSC-CRL-95-15, February 24, 1995.	
<i>BB</i> ✓	47.	Yu, M.-F. et al., Planar Interchangeable 2-Terminal Routing, UCSC-CRL-95-49, October 19, 1995.	
<i>BB</i> ✓	48.	Yu, M.-F. et al., Single-Layer Fanout Routing and Routability Analysis for Ball Grid Arrays, UCSC-CRL-95-18, April 25, 1995.	
<i>BB</i> ✓	49.	Ahuja, R. et al., Faster Algorithms for the Shortest Path Problem, Journal of the Association for Computing Machinery, vol. 37, No. 2, April 1990, pp. 213-223.	
<i>BB</i> ✓	50.	Alexander, M. et al., Performance-Oriented Placement and Routing for field-programmable gate arrays, Proceedings of the European Design Automation Conference, pages 80-85, 1995.	
<i>BB</i> ✓	51.	Alexander, M. et al., Placement and Routing for Performance-Oriented FPGA Layout, VLSI Design, Vol. 7, No. 1, 1998.	
<i>BB</i> ✓	52.	Andou, H. et al., Automatic Routing Algorithm for VLSI, 22 <sup>nd</sup> Design Automation Conference, 1985, pp. 785-788.	
<i>BB</i> ✓	53.	Bagga, J. et al., Internal, External, and Mixed Visibility Edges of Polygons.	
<i>BB</i> ✓	54.	Berger, B. et al., Nearly Optimal Algorithms and Bounds for Multilayer Channel Routing, Journal of the Association for Computing Machinery, pp. 500-542, March 1995.	
<i>BB</i> ✓	55.	Brady, L. et al., Channel Routing on a 60° Grid, extended abstract, pp.926-931.	
<i>BB</i> ✓	56.	Carothers, K., A Method of Measuring Nets Routability for MCM's General Area Routing Problems, 1999, pp. 186-192.	
<i>BB</i> ✓	57.	Chen, D-S. et al., A Wire-Length Minimization Algorithm for Single-Layer Layouts	

Examiner Signature	<i>Bowen Bowen</i>	Date Considered	12/13/04
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MAY 18 2004

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Sheet

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of

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Application Number

10/066,095

Filing Date

1/31/2002

First Named Inventor

Steven Teig et al.

Group Art Unit

3628

2826

Examiner Name

Chencinski, S.

power

Attorney Docket Number

SPLX.P0074

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Examiner Signature	<i>Burton Reven</i>	Date Considered	12/17/04
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Sheet

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Application Number	10/066,095
Filing Date	1/31/2002
First Named Inventor	Steven Teig et al.
Group Art Unit	<del>3828</del> 2825
Examiner Name	Chencinski, S. <i>Bower</i>
Attorney Docket Number	SPLX.P0074

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Examiner Signature	<i>Arthur Bower</i>	Date Considered	12/13/04
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Sheet

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Application Number

10/066,095

Filing Date

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First Named Inventor

Steven Teig et al.

Group Art Unit

3628

2828

Examiner Name

Chencinski, S.

bowen

Attorney Docket Number

SPLX.P0074

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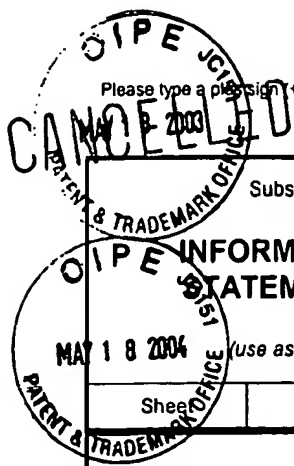
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Examiner Signature	<i>John D. Bowen</i>	Date Considered	12/13/04
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Sheet

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Application Number

10/066,095

Filing Date

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First Named Inventor

Steven Teig et al.

Group Art Unit

~~3828~~ 2826

Examiner Name

Ghencincki, S. *Bower*

Attorney Docket Number

SPLX.P0074

## NON PATENT LITERATURE DOCUMENTS

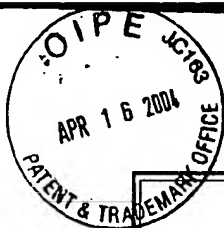
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Examiner Signature	<i>Arthur Bower</i>	Date Considered	12/13/04
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## ELECTRONIC INFORMATION DISCLOSURE STATEMENT

Electronic Version v18

Stylesheet Version v18.0

Title of Invention	Method and apparatus for routing groups of paths
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Application Number: 10/066095



Confirmation Number: 6009

First Named Applicant: Steven Teig

Attorney Docket Number: SPLX.P0074

Art Unit:

~~3628~~ 2825

Examiner:

~~SIEGFRIED E. CHENCINSKI~~ *Bauer*

Search string:

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or 5635736 or 6128767 or 6219823 or 6226560  
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### US Patent Documents

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init	Cite.No.	Patent No.	Date	Patentee	Kind	Class	Subclass
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<i>04</i>	3	5633479	1997-05-27	Hirano			
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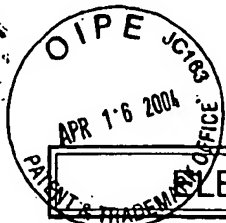
### US Published Applications

Note: Applicant is not required to submit a paper copy of cited US Published Applications

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	7	20010003843	2001-06-14	Scepanovic et al.	A1		
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	9	20030025205	2003-02-06	Shively	A1		
✓	10	20030121017	2003-06-26	Andreev et al.	A1		

Signature

Examiner Name	Date
<i>Barbara Brown</i>	12/13/04



# ELECTRONIC INFORMATION DISCLOSURE STATEMENT

Electronic Version v18

Stylesheet Version v18.0

Title of Invention	Method and apparatus for routing groups of paths																																																																																																														
<p>Application Number: 10/066095</p> <p>Confirmation Number: 6009</p> <p>First Named Applicant: Steven Teig</p> <p>Attorney Docket Number: SPLX.P0074</p> <p>Art Unit: <del>3028</del> 3326</p> <p>Examiner: <del>SIEGERIED E. CHENCINSKI</del> <i>Bower</i></p> <p>Search string: ( 6123736 or 6155725 or 6166441 or 6175950 or 6209123 or 6216252 or 6219832 or 6230306 or 6247167 or 6253363 or 6260179 or 6289495 or 6292929 or 6301686 or 6324674 or 6324675 or 6327693 or 6327694 or 6330707 or 6378121 or 6385758 or 6401234 or 6405358 or 6407434 or 6412097 or 6412102 or 6463575 or 6473891 or 6519751 or 6526555 or 6543043 or 6557145 or 6567967 or 6586281 or 6665852 ).pn.</p> <p>US Patent Documents</p> <p>Note: Applicant is not required to submit a paper copy of cited US Patent Documents</p> <table border="1"><thead><tr><th>init</th><th>Cite.No.</th><th>Patent No.</th><th>Date</th><th>Patentee</th><th>Kind</th><th>Class</th><th>Subclass</th></tr></thead><tbody><tr><td><input checked="" type="checkbox"/></td><td>1</td><td>6123736</td><td>2000-09-26</td><td>Pavisc et al.</td><td></td><td></td><td></td></tr><tr><td><input checked="" type="checkbox"/></td><td>2</td><td>6155725</td><td>2000-12-05</td><td>Scepanovic et al.</td><td></td><td></td><td></td></tr><tr><td><input checked="" type="checkbox"/></td><td>3</td><td>6166441</td><td>2000-12-26</td><td>Geryk</td><td></td><td></td><td></td></tr><tr><td><input checked="" type="checkbox"/></td><td>4</td><td>6175950</td><td>2001-01-16</td><td>Scepanovic et al.</td><td>B1</td><td></td><td></td></tr><tr><td><input checked="" type="checkbox"/></td><td>5</td><td>6209123</td><td>2001-03-27</td><td>Maziasz et al.</td><td>B1</td><td></td><td></td></tr><tr><td><input checked="" type="checkbox"/></td><td>6</td><td>6216252</td><td>2001-04-10</td><td>Dangelo et al.</td><td>B1</td><td></td><td></td></tr><tr><td><input checked="" type="checkbox"/></td><td>7</td><td>6219832</td><td>2001-04-17</td><td>Buzbee</td><td>B1</td><td></td><td></td></tr><tr><td><input checked="" type="checkbox"/></td><td>8</td><td>6230306</td><td>2001-05-08</td><td>Raspopovic et al.</td><td>B1</td><td></td><td></td></tr><tr><td><input checked="" type="checkbox"/></td><td>9</td><td>6247167</td><td>2001-06-12</td><td>Raspopovic et al.</td><td>B1</td><td></td><td></td></tr><tr><td><input checked="" type="checkbox"/></td><td>10</td><td>6253363</td><td>2001-06-26</td><td>Gasarov et al.</td><td>B1</td><td></td><td></td></tr><tr><td><input checked="" type="checkbox"/></td><td>11</td><td>6260179</td><td>2001-07-10</td><td>Ohsawa et al.</td><td>B1</td><td></td><td></td></tr><tr><td><input checked="" type="checkbox"/></td><td>12</td><td>6289495</td><td>2001-09-11</td><td>Raspopovic et al.</td><td>B1</td><td></td><td></td></tr></tbody></table>								init	Cite.No.	Patent No.	Date	Patentee	Kind	Class	Subclass	<input checked="" type="checkbox"/>	1	6123736	2000-09-26	Pavisc et al.				<input checked="" type="checkbox"/>	2	6155725	2000-12-05	Scepanovic et al.				<input checked="" type="checkbox"/>	3	6166441	2000-12-26	Geryk				<input checked="" type="checkbox"/>	4	6175950	2001-01-16	Scepanovic et al.	B1			<input checked="" type="checkbox"/>	5	6209123	2001-03-27	Maziasz et al.	B1			<input checked="" type="checkbox"/>	6	6216252	2001-04-10	Dangelo et al.	B1			<input checked="" type="checkbox"/>	7	6219832	2001-04-17	Buzbee	B1			<input checked="" type="checkbox"/>	8	6230306	2001-05-08	Raspopovic et al.	B1			<input checked="" type="checkbox"/>	9	6247167	2001-06-12	Raspopovic et al.	B1			<input checked="" type="checkbox"/>	10	6253363	2001-06-26	Gasarov et al.	B1			<input checked="" type="checkbox"/>	11	6260179	2001-07-10	Ohsawa et al.	B1			<input checked="" type="checkbox"/>	12	6289495	2001-09-11	Raspopovic et al.	B1		
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Examiner Name	Date
<i>Arthur Brown</i>	12/13/04